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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,199	10/10/2000	John W. McCorkle	195670US-8	4313

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EXAMINER

LIU, SHUWANG

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/06/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/685,199

Applicant(s)

MCCORKLE, JOHN W.

Examiner

Shuwang Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,11,12,21,22,31,32,41,42,51,52,61,62,71,72,81,82,91,92,101,102,111 and 112 is/are rejected.
- 7) ☒ Claim(s) 3-10,13-20,23-30,33-40,43-50,53-60,63-70,73-80,83-90,93-100,103-110 and 113-120 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12 and 13.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The Ex parte Quayle of that action is withdrawn because the prior art is found for the following rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, 11, 12, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US 5,708,383).

As shown in figures 1, 2, 4 and 5, Lee discloses a timing generator, comprising:

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(1) regarding claims 1, 11 and 21:

a high frequency clock generation circuit (26 in figure 2 or 48, 50, and 52 in figure 4) having low phase noise (column 2, lines 12-19);

a low frequency control generation circuit (24 in figure 2 or Vx in figure 4); and

a modulation circuit (28 in figure 2 or 42, 44, and 48 in figure 4) coupled between the high frequency clock generation circuit and the low frequency control generation circuit, wherein the high frequency clock generation circuit generates a plurality of high frequency clock signals (Vc1-Vc3), the low frequency control generation circuit generates a plurality of low frequency control signals (Vx1-Vx3), and the modulation circuit modulates the high frequency clock signals with the low frequency control signals to produce an agile timing signal (Fout) at a predetermined frequency and phase by adjustments to at least one of frequency of the low frequency control signals (provide by 22), phase of the low frequency control signals, frequency of the high frequency clock signals, and phase of the high frequency clock signals (column 4, lines 27-60).

(2) regarding claims 2, 12 and 22:

wherein high power, high frequency circuitry is used in at least one of the high frequency clock generation circuit and the modulation circuit, and low power, low frequency circuitry is used in the low frequency control generation circuit (it is inherent).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 41, 42, 51, 52, 61, 62, 81, 82, 91, 92, 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richards (US 6,304,623, see paper #9) in view of Lee (US 5,708,383).

As shown in figures 1, 2, 3 and 4, Richards discloses UWB communication system, comprising:

(1) regarding claims 41, 51, 61, 81, 91 and 101:

a UWB modulator (120 and 124);

a UWB demodulator (136);

a controller (160); and

a UWB timing generator (120 and figure 4).

Richards discloses all of the subject matter as described above except for specifically teaching a time generator including a high frequency clock generation circuit, a low frequency control generation circuit and a modulation circuit as recited in claims.

However, Lee discloses the time generator, comprising:

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a high frequency clock generation circuit (26 in figure 2 or 48, 50, and 52 in figure 4) having low phase noise (column 2, lines 12-19);

a low frequency control generation circuit (24 in figure 2 or Vx in figure 4); and

a modulation circuit (28 in figure 2 or 42, 44, and 48 in figure 4) coupled between the high frequency clock generation circuit and the low frequency control generation circuit, wherein the high frequency clock generation circuit generates a plurality of high frequency clock signals (Vc1-Vc3), the low frequency control generation circuit generates a plurality of low frequency control signals (Vx1-Vx3), and the modulation circuit modulates the high frequency clock signals with the low frequency control signals to produce an agile timing signal (Fout) at a predetermined frequency and phase by adjustments to at least one of frequency of the low frequency control signals (provide by 22), phase of the low frequency control signals, frequency of the high frequency clock signals, and phase of the high frequency clock signals (column 4, lines 27-60).

It would be desirable to have a high speed and low power consumption integrated circuit to use in the time generation the communication system (column n4, lines 19-25, Lee). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the timing generator as taught by Lee in the UWB system of Richards in order to allow the system has high speed and low power consumption during the transmission and reception of data.

(2) regarding claims 42, 52, 62, 82, 92 and 102:

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wherein high power, high frequency circuitry is used in at least one of the high frequency clock generation circuit and the modulation circuit, and low power, low frequency circuitry is used in the low frequency control generation circuit (it is inherent).

6. Claims 31, 32, 71, 72, 111 and 112 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and Richards as applied in claims 1, 41, 42, 51, 52, 61, 62, 81, 82, 91, 92, 101 and 102, further in view of Langberg et al. (US 5,852,630).

Lee and Richards disclose all of the subject matter as described above except for the method written by a software program embodied in a computer-readable medium.

However, Langberg et al. teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implemented in software stored in a computer-readable medium. The computer-readable medium is an electronic, magnetic, optical, or other physical device or means that can be contain or store a computer program for use by or in connection with a computer-related system or method (column 3, lines 51-65). One skilled in the art would have clearly recognized that the method of Lee and Richard would have been implemented in software. The implemented software would perform same function of the hardware for less expense, adaptability, and flexibility. Therefore, it would have been obvious to use the software in Lee and Richards as taught by Langberg et al. in order to reduce cost and improve the adaptability and flexibility of the communication system.

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Allowable Subject Matter

7. Claims 3-10, 13-20, 23-30, 33-40, 43-50, 53-60, 63-70, 73-80, 83-90, 93-100, 103-110 and 113-120 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

July 27, 2004